Math 4050 Discrete Math Quiz 4 November 18, 2015

[20] 1. If  $S = A_1 \cup A_2 \cup A_3 \cup A_4 \cup A_5 \cup A_6 \cup A_7 \cup A_8 \cup A_9$ , then how many terms are in the sum  $\sum |A_i \cap A_j \cap A_k \cap A_m|$  where the sum is taken over all possible quadruple intersections,  $A_i \cap A_j \cap A_k \cap A_m$ , of  $\{A_1, A_2, A_3, A_4, A_5, A_6, A_7, A_8, A_9\}$  where i, j, k, m are all distinct?

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